Spring is blooming in Chapel Hill as we near the close of another busy semester.

Two of our younger faculty members received special recognition last year. In May, Wei Wang was named one of the inaugural Microsoft New Faculty Fellows. Then, in October, Marc Pollefeys was named a Packard Fellow in Science and Engineering. Both of these awards are highly competitive, and we are very proud to have our faculty members recognized nationally for their outstanding accomplishments. You can read more about Wei and Marc on page 7 of this newsletter.

Over the last year the university has been engaged in a major effort to restructure its undergraduate curricula. We have taken this opportunity to make some additions to our undergraduate computer science programs.

First, we have created an undergraduate minor in computer science to enable majors outside of computer science (such as business, the sciences, or mathematics) to include computer science in their degree program in a substantial fashion.

Second, we have entered into an exchange arrangement to enable our computer science majors to follow computer science courses at the highly regarded Computer Science Department of University College London. This special opportunity for computer science students satisfies a new university requirement for experiential education without sacrificing progress on the substantial requirements of our B.S. program.

Further changes are still underway, including a co-op program with local industry and a proposed undergraduate B.A. program in computer science.

Site preparation for the Sitterson South addition has started, and the design of the new space to be built is finalized. Major construction is expected to start this fall, with completion of the addition scheduled for spring 2008. About 20% of the physical science complex funding, of which the Sitterson addition is a part, is expected to come from donations. Please keep us in mind if you are able to make a contribution. Feel free to contact me for additional information, including commemorative gift opportunities.

As always, we are interested to hear your latest news and we welcome your visit to the department.

Jan F. Prins

Welcomes and Farewells

FACULTY AND STAFF

Jan Michael Frahm, Postdoctoral Research Associate.

Christopher Healey, Visiting Associate Professor from North Carolina State University.

Merkourios Karaliopoulos, Postdoctoral Research Associate.

Vivek Kwatra, Postdoctoral Research Associate.

Philippos Mordohai, Postdoctoral Research Associate.

Sharif Razaque (Ph.D. 2005), Postdoctoral Research Associate.

David Tuft, Software Engineer for the GAMMA group.
Family matters

Jaron Bryce was born on February 26, 2005, in Palo Alto, Calif., to Steve and Audra (Sugarman) Lemke (M.S. 1995). Jaron joins big sister Brina, 4. (audra@lemkeville.org)

Amy Henderson (M.S. 2000) and Michael Squillacote were married on February 26, 2005, in Loudonville, N.Y. (amy.squillacote@kitware.com)

Cory Quammen, graduate student, and Sandra Valnes were married on June 11, 2005, in Palo Alto, Calif. (cquammen@cs.unc.edu)

Karston Pierce was born on July 3, 2005, in Chapel Hill to Joni and Kurtis Keller, Research Associate and Engineer for the Microelectronic Systems Laboratory. (keller@cs.unc.edu)

Benjamin Lok (Ph.D. 2002) and Laura Boland were married on July 9, 2005, in Tampa, Fla. (lok@cie.ufl.edu)

Jenni Styrorn, office assistant, and Scott Clark were married on July 23, 2005, in Atlantic Beach, N.C. (jis@cs.unc.edu)

Scott Leslie (B.S. Msci. 1991) and Shannon Caldwell were married on August 20, 2005, in Kennebunkport, Maine. (Scott.Leslie@sas.com)

Patrick Quirk, graduate student, and Christy Nell were married on August 21, 2005 in Chapel Hill. (quirk@cs.unc.edu)

Channing Elizabeth was born in Durham on October 23, 2005, to Lori and Jim Mahaney, Computing Consultant and Assistant to Henry Fuchs. Channing joins big brother Leif, 2, and big sister Georgia, 8. (mahaney@cs.unc.edu)

Neil Martin was born on November 13, 2005, in Chapel Hill to graduate students Swaha (Das) and Dorian Miller. (swaha@cs.unc.edu, dorianmm@cs.unc.edu)

Sophia Mac was born on December 20, 2005, in Chapel Hill to Katie and David Tuft, software engineer. (tuft@cs.unc.edu)

GurMeher Kaur was born on December 22, 2005, in Durham to Assistant Professor Jasleen Kaur and husband Darshan Singh. (jasleen@cs.unc.edu)

Congratulations to...

THANKS AND FAREWELL TO...

Myra Gwin-Summers, research assistant to Henry Fuchs, who left in August 2005.

Faye Lewis, administrative assistant, who left in December 2005. Faye is currently working as an assistant in the College of Arts & Sciences dean’s office.

Jim Mahaney, computing consultant and assistant to Henry Fuchs, who left in December 2005. Jim is currently working as a tech support specialist for UNC Information Technology Services.

Gokul Varadhan (Ph.D. 2005), postdoctoral research associate working with the GAMMA group, who left in February 2006 to accept a job with Google.

Congratulations to...

FACULTY AND STAFF

Gary Bishop (Ph.D. 1984), professor, who was the recipient of a 2005 Class of 1996 Award for Advising Excellence. This award is presented annually to advisors of undergraduate students from academic departments, professional schools, and the Academic Advising Programs in the College of Arts & Sciences and the General College.

Jenni Styrorn Clark, office assistant, who received her B.A. in History in December 2005.

David Harrison, computer network coordinator, who was elected to the UNC Employee Forum as a delegate from Division 8.

Catherine Perry, accounting manager, who received the 10th annual Robert R. Cornell Unsung Hero Award from the Office of Institutional Research and Assessment in December 2005.

Russell Taylor (Ph.D. 1994), research associate professor, Gail Jones, adjunct professor, and David Borland, graduate student, who, along with James Minogue, graduate assistant at NC State, received an honorable mention from SensAble Technologies, Inc., in the SensAble Developer Challenge for their Haptic Cell application. Haptic Cell is a computer-based instructional program that provides an innovative and exciting way for students to interactively explore the structure and functioning of a typical animal cell. Using the PHANTOM® Omni™ device, students can actually feel the cell parts and forces associated with the functions of the cell membrane. This instructional program capitalizes on the PHANTOM® Omni device’s unparalleled ability to provide bi-directional, simultaneous information exchange between the user and the device. This instruction is unlike other educational software programs, because it reaches kinesthetic as well as visual learners.

Steve Weiss, professor, who was named the Interim Associate Dean for First Year Seminars in the Office of Undergraduate Education, effective July 1, 2005.

GRADUATE STUDENTS

May 2005 Ph.D. Recipients: Karl Ernest Hillesland. Image streaming to build image-based models. (Anselmo Lastra)

Michael Hayden Rosenthal. Three-dimensional registration and tracking of vascular structures using calibrated biplane fluoroscopy. (Henry Fuchs)

August 2005 Ph.D. Recipient: Sharif A. Razaque. Redirected walking. (Frederick P. Brooks Jr.)


2005-2006 STUDENT FELLOWSHIPS AND SPECIAL AWARDS

Aaron Block
Tristan Celestin
Kwangbom Choi
Brian Cornell
Uma Devi
Russ Gayle
Gennette Gill
Justin Hensley
Jun (Luke) Huan
Jason Jerald
Scott Larsen
Brandon Lloyd
Dorian Miller
Avery Smith
Jennifer Staab
Josh Steinhurst
Xueyi Wang
Jeremy Wendt

National Science Foundation Fellowship (Year 2 of 3)
Robot Visual Navigation Assistantship
BCB Fellow in Bioinformatics
Graduate School Merit Assistantship
IBM Fellowship
Department of Energy Fellowship (Year 2 of 4)
NDSEG Fellowship (Year 2 of 3)
ATI Fellowship
Alumni Fellowship
NPSI (Year 5 of 6)
NVidia
National Science Foundation Fellowship (Year 3 of 3)
IBM Fellowship
Graduate School Minority Presence Fellowship (RENGI)
BCB Fellow in Bioinformatics
Bioinformatics Grant
National Science Foundation Fellowship (Year 2 of 3)
Grants and Contracts


Ming Lin, professor (PI). “CI-TEAM,” NSF, subcontract to Drexel University.

Dinesh Manocha, professor (PI), and Naga Govindaraju, research assistant professor (Co-PI). “STTR: Utilizing GPUs as an Efficient Chemical Kinetics Co-processor,” DARPA, subcontract to Combustion Research and Flow Technology Inc.

Dinesh Manocha, professor (PI). “Efficient and Scalable Data Structures for Topological Geometric Models,” University of California, Lawrence Livermore National Laboratory.


Montek Singh, assistant professor (PI). “High-speed Asynchronous Pipeline Technology for the DARPA CLASS project,” DARPA, subcontract to The Boeing Company.


ALUMNI FELLOWSHIP RECIPIENT

Jun "Luke" Huan (M.S. 2003) is the recipient of the 2005-2006 Computer Science Alumni Fellowship. The fellowship is awarded annually to a Ph.D. candidate in his or her final year of study, allowing the student to work full time on dissertation research. Generous contributions by alumni and friends help to make this fellowship possible.

Luke is pursuing a dissertation under his advisors Jan Prins and Wei Wang. His research focuses on the interface of data mining and bioinformatics by developing pattern mining algorithms for protein structure data. Specifically, Luke is investigating methods to represent a protein structures as a graph and developing efficient algorithms to enumerate frequently occurring subgraphs in a graph database. Learning protein structural patterns is critical for better understanding of many biological processes such as the biological function of the proteins, protein-protein interaction, and protein-drug interaction. In addition, such research is useful in engineering proteins and searching for novel medicines. Luke’s primary focuses within this area are devising various pattern searching algorithms for graph databases, augmenting domain constraints into the pattern learning processes, evaluating the statistical significances of the derived patterns, and developing techniques for improving performance and efficiency.
Recent publications


M.S. AND PH.D. ALUMNI

Ronald Azuma (M.S. 1990, Ph.D. 1995) served as Program Co-chair for the IEEE International Symposium on Mixed and Augmented Reality 2005 in Vienna, Austria. He also recently published two papers:


Ron is at HRL Laboratories in Malibu, Calif. (azuma@hrl.com)

Steven Bellovin (M.S. 1977, Ph.D. 1982) was named Professor of Computer Science at Columbia University in spring 2005.

Kathryn Britton (M.S. 1977) is a member of the inaugural class of the new Masters of Applied Positive Psychology program at the University of Pennsylvania. (brittonk@usi.upenn.com)

Randy Brown (M.S. 1990), Chief Technical Officer of Virtual Heroes, Inc. (www.virtualheroes.com), was the winner of the inaugural Hot Rod Magazine Top Speed Challenge held at the season-opener event of the East Coast Timing Association at Maxton, N.C. The event was featured in the September 2005 issue of Hot Rod Magazine. Randy set a land speed record of 180.839 mph in the Standing Mile in his 1994 Pontiac Firebird Formula using nitrous oxide, which he also drove to and from the event, 130 miles each way. He also spoke on the use of game engines for Simulation and Training on a panel at the inaugural Space Forum held at the Simulation Interoperability Workshop in Orlando, Fla., on Sept. 21. (randy.brown@virtualheroes.com)

Michael Capps (B.S. 1994, M.S. 1996) is president of Epic Games in Raleigh, N.C., which pulled off a sweep of the “Best Xbox 360 Game” category at the E3, the main games industry tradeshow, with its upcoming game “Gears of War.” In addition, Epic’s Unreal Engine 3 game technology recently was awarded “Best Game Engine” by Game Developer Magazine, and Sony Computer Entertainment Inc. recently announced that it will be making the Unreal Engine available to all Playstation 3 developers. In September 2005, Epic was named one of the “Best Places to Work in the Triangle” by the Triangle Business Journal, placing in the top 3 for medium-sized businesses. (Mike.Capps@epicgames.com)

Eric Carlson (Ph.D. 1972) has retired from Silicon Valley executive life, and says he is reinventing himself in the field of social benefit entrepreneurship at Santa Clara University’s Center for Science, Technology, and Society. Eric’s wife, Mimi, continues as a flautist with Symphony Silicon Valley and Ballet Silicon Valley. Both of their children are married (and employed), so they now have room for visitors during the academic year in Los Gatos, Calif., and in the summer in northern Minnesota. (earlson@scu.edu)

Joel Dunn (M.S. 1995) is now working for UNC’s Information Technology Services as Director of Networking Collaborations. In his new role, Joel is the primary contact for networking collaborations and partnerships with both on and off campus participants, working to foster collaborative projects with other campus schools and departments and with local and national networking partners. Joel has worked at UNC since 1983. (joel.dunn@unc.edu)

Benjamin Lok (Ph.D. 2002) and his wife, Laura (see Family Matters) live in Gainesville, Fla. Benjamin currently works as an assistant professor at the University of Florida. (lok@cise.ufl.edu)

David McAllister (Ph.D. 1972) retired from the Computer Science Department at NCSU in June, 2005 after 33 years at NCSU. From 1967-1972 he taught full- or part-time at UNC-Greensboro in the Department of Mathematics. His major areas of research included stereo graphics, speech processing, fault tolerant software and numerical analysis. He will continue in the University Phased Retirement half-time program for the next three years. He will continue to do research and work with graduate students. (David@cmonline.com)

Gopi Meenakshisundaram (Ph.D. 2001) and his student won the second best paper award at Eurographics 2005 with a paper titled Hierarchicalyless Simplification, Striplification, and Compression of Triangulated Two-Manifolds. Gopi won the same award at Eurographics 2004 for a paper on single-striplification. He has been an assistant professor at the University of California, Irvine since fall 2001. (gopi@barcelona.ics.uci.edu)

Lee Nackman (Ph.D. 1982) continues to work for IBM in Research Triangle Park, N.C. He was recently promoted to Vice President, Product Development and Customer Support, for Rational Software, a division of IBM’s Software Group. Lee is also co-editor of Addison-Wesley’s Eclipse series. Lee, his wife Ava, and their two sons Samuel (17) and Joel (13) reside in Chapel Hill; their daughter, Rachel (20), is a junior at Tufts University and recently spent a semester abroad in Paris where she studied French, art history, and music. Lee and Ava welcome visits from fellow CS Alumni who find themselves in Chapel Hill. (irn@us.ibm.com)

Ramesh Raskar (Ph.D. 2000) is the co-author of a new book, Spatial Augmented Reality. He was a co-organizer, along with Aditi Majumder (Ph.D. 2002), for the PROCAMS 2005 workshop at CVPR 2005. Ramesh was also promoted to Senior Research Scientist at MERL in Cambridge. (raskar@merl.com)

Ray Van Dyke (M.S. 1989) has been appointed to the Board of Directors of the Computer Law Association, and a Chair of the Emerging Technologies Committee of the American Intellectual Property Law Association. He teaches a course in intellectual property fundamentals and the history of technology and law this fall in the Computer Engineering School at Southern Methodist University in Dallas, and taught a course on International and Comparative Patent Law at American University’s Washington College of Law, where he is also an Adjunct Professor. He has also been reappointed as the Greater Washington, DC, Chair of the Licensing Executives Society. (rsvandyke@nixonpeabody.com)


UNDERGRADUATE ALUMNI

Lawrence Bercini (B.S.M.Sci. 1977) received his Certified Business Intelligence Professional (CBIP) certification from the Institute for the Certification of Computing Professionals (ICCP). This new certification designation was a joint

(continued on page 6)
Alumni news

from page 5
effort between the ICCP and The Data Warehousing Institute (TDWI). His mastery-level certification focuses on the Data Architecture aspect of Business Intelligence. (lbercini@transunion.com)

Derrick Cole (B.S.M.Sci. 1988) was promoted to the position of IT Risk Manager at GlaxoSmithKline. (derrick@nc.rr.com)


Byron Kinnaird (B.S. 2001) left his position as a software consultant with UPS Professional Services (United Parcel Service) in February 2005. He now lives in Washington, DC, and works with a small private software development company in Reston, Va., (www.avenity.com) that develops business applications for state governments and financial institutions, among others. (byronkinnaird@yahoo.com)

FORMER FACULTY AND STAFF
John McHugh, former research associate professor, has taken a position as the Canada Research Chair in Privacy and Security at Dalhousie University in Halifax, N.S. He is in the process of setting up a laboratory for research in these areas. In January 2005, he had the honor of serving as the “Opponent” in the successful PhD examination of Stefan Axelsson at Chalmers University in Sweden. (mchugh@cs.dal.ca)

Lars Nyland, adjunct associate professor, is now a senior architect at NVIDIA in Research Triangle Park, working on performance-related issues, and glad to join the many UNC CS graduates who work there. (lnyland@gmail.com)

The DeltaSphere 3D Scene Digitizer and SceneVision software was featured on a March 2005 episode of CBS’ popular TV show, CSI: Crime Scene Investigation. The DeltaSphere is a 3D Scanner that quickly and accurately captures scenes and objects in 3D and color. The captured data can be displayed as a 3D computer graphics model and viewed from any perspective. Investigators in the show use the products, and the computer graphics model produced, to explore the murder of a suburban family in the episode called “Spark of Life.”

“The CSI writers are always looking for the latest technology being applied to crime scene investigation,” said Nick England, president of 3rdTech and adjunct research professor of computer science. “It might seem like science fiction, but the script accurately portrays what our products can do.”

The DeltaSphere, which was developed in the Department of Computer Science by former Research Associate Professor Lars Nyland (now adjunct associate professor), replaces the tedious work of manually making dozens of measurements at a crime scene by automatically making thousands of measurements per second. SceneVision combines these millions of laser measurements with professional-quality, calibrated digital photographs to create accurate, photo-realistic models of real-world scenes that can be viewed, measured, analyzed, and presented.

In the past year, the DeltaSphere and SceneVision have been acquired by a number of law enforcement agencies and training institutes, including the U.S. Army Criminal Investigation Laboratory, the Henry C. Lee Institute of Forensic Science, and the American Academy of Applied Forensics in Huntersville, N.C.

DeltaSphere Featured on CBS’ CSI: Crime Scene Investigation

Save the Date!

The Siggraph 2006 Alumni Reception will be held on Monday, July 31

Location details coming soon!

If you are not on our email list and would like to be, please send a request to pubs@cs.unc.edu
Marc Pollefeys awarded Packard Fellowship in Science & Engineering

Dr. Marc Pollefeys, associate professor of computer science, received a $625,000 Packard Fellowship in Science and Engineering in October 2005.

The Packard fellowship program is designed to strengthen university-based science and engineering programs by supporting innovative researchers early in their careers. Each year, the David and Lucile Packard Foundation selects 16 fellows nationally to receive $625,000 over five years to support their research. The program funds research in a broad range of disciplines, including astronomy; biology; chemistry; computer science; mathematics; physics and all branches of engineering.

A member of the Department of Computer Science faculty since July 2002, Pollefeys is using the fellowship to develop algorithms that will enable camera networks to perform a multitude of observation tasks. Pollefeys’ work contributes to the area of three-dimensional graphic imaging.

Pollefeys focuses his research on computer vision – a field of computer science concerned with developing algorithms for extracting information from images in the real world. He has published more than 80 scientific papers, helped to organize major conferences and workshops and is on the editorial board of IEEE Transactions on Pattern Analysis and Machine Intelligence, the main scientific journal in his area.

“Marc is internationally recognized for the techniques he has developed to estimate the three-dimensional structure of a scene from an uncalibrated video camera moving through the scene,” said Dr. Jan Prins, professor and chairman of computer science. “The Packard Fellowship will support his extension of this work to address the extremely challenging problems in the reconstruction of dynamic scenes as viewed simultaneously from several cameras.”

In 2003, Pollefeys received a National Science Foundation Faculty Early Career Development Award, which supports outstanding new teacher-scholars. He has received other awards, including the 1998 Marr Prize, an award given for the best paper appearing at the International Conference on Computer Vision.

Pollefeys is the third UNC recipient of a Packard Fellowship since its inception in 1988, and the first recipient in computer science. The two previous UNC recipients were from the Department of Chemistry, in 1991 and 1998.

Wei Wang receives first Microsoft New Faculty Fellowship

Dr. Wei Wang, associate professor of computer science, was named one of five recipients of the first Microsoft New Faculty Fellowship Awards in May 2005.

The awards recognize and support early-career professors who demonstrate “exceptional talent for novel research and thought leadership in their disciplines.”

Selected from a pool of 110 nominees representing universities nationwide, each of the fellows received a $200,000 grant to pursue innovative research in computer science, as well as the opportunity to explore collaborations with some of the top researchers working in their areas of interest at Microsoft Research.

Wang, who joined the Department of Computer Science in July 2002, also is a member of UNC’s Carolina Center for Genome Sciences. She was a research staff member at the IBM T. J. Watson Research Center from 1999 to 2002.

She specializes in the area of data mining, which focuses on finding patterns within vast data collections. She teaches graduate courses in data mining and bioinformatics and

A paper appearing at the International Conference on Computer Vision.

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Department Chairman Jan Prins presents Catherine Perry, accounting manager, with a scrapbook containing the letters from coworkers nominating her for the Robert R. Cornwell Unsung Hero Award. Catherine has worked for UNC for 29 years, with 27 of those in the Department of Computer Science.